Memorandum

To: State Directors
From: Duane L. Shroufe, Chair, IAFWA Teaming with Wildlife Committee
Subject: Monitoring Success of Comprehensive Wildlife Conservation Planning Efforts
Date: September 15, 2003

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The U.S. Fish and Wildlife Service has developed various criteria to evaluate planning efforts. The criteria include requirements for monitoring outcomes, for monitoring the effectiveness of the conservation actions, and for adapting conservation actions to respond appropriately to new information or changing conditions.

For your consideration, I have attached a short document created by the TWW Committee's State Wildlife Grants Work Group that offers suggestions for meeting these requirements with regard to Comprehensive Wildlife Conservation Strategies (Plans). The suggestions include the following:

1. Adopting a Results Management Framework
2. Developing Performance Indicators and Targets
3. Evaluating the Effectiveness of Conservation Actions
4. Adopting an Evaluation and Reporting Schedule
5. Adopting a Glossary of Terms
6. Taking Steps to Develop Performance Indicators

Attachment

THOUGHTS ON MONITORING SUCCESS OF COMPREHENSIVE WILDLIFE CONSERVATION STRATEGIES (PLANS)

"It is easier to select a method for madness than a single best method for evaluation, though attempting the latter is an excellent way of achieving the former."
Michael Patton, as found in Utilization Focused Evaluation

Preface

Congress has provided the States and Territories with a list of 8 elements, which the U.S. Fish and Wildlife Service (FWS) must use as criteria to judge whether a Comprehensive Wildlife Conservation Strategy (CWCS) meets the letter and spirit of the law. One of those criteria (criterion 5) calls for monitoring the success of the CWCS effort, for evaluating conservation actions, and for adapting actions over time. This document suggests an approach that might be useful in focusing effort on monitoring success and evaluating action. This approach includes:

1. Adopting a Results Management Framework
2. Developing Performance Indicators and Targets
3. Evaluating the Effectiveness of Conservation Actions
4. Adopting an Evaluation and Reporting Schedule
5. Adopting a Glossary of Terms
6. Taking Steps to Develop Performance Indicators

The Expectations

All states and territories that accept State Wildlife Grants monies must agree to produce a CWCS by October 1, 2005. All CWCSs are required to have a monitoring and evaluation component.

Congress has provided a list of 8 elements, which FWS must use as criteria to judge whether a State or Territory CWCS meets the requirements. FWS circulated the list of 8 criteria at the five regional CWCS workshops in 2003. Criterion 5 relates specifically to monitoring and evaluating CWCS success; it reads as follows:

> *(5) proposed plans for monitoring species identified in (1) and their habitats, for monitoring the effectiveness of the conservation actions proposed in (4), and for adapting these conservation actions to respond appropriately to new information or changing conditions.*

Criterion 5 calls for development of plans to measure outcomes (e.g. monitoring species and habitats), plans to evaluate the effectiveness of actions, and plans for adopting new actions based on new information. These planning tasks are related, but they can be substantially different in terms of process.

This piece suggests a "results management framework" that organizes inputs, activities, outputs, and outcomes in a logical sequence. This framework allows planners to articulate these various

components in a management process and anticipate how to evaluate them. If adopted, a results management framework should help a CWCS meet the expectations identified in Criterion 5.

Adopt a Results Management Framework

A results management framework helps organize the logic of organizational action. It illustrates the relationships between investments, activities, outputs, and outcomes. By using such a framework, managers can be articulate about their intentions and explicit about their outcomes. This should make it easier to monitor success and evaluate effectiveness.

Here is an example of a results management framework. It is presented as an illustration of the concept, not "the model to be adopted."

Results Management Framework

Inputs ⟹ Activities/ Outputs ⟹ Outcomes

What we invest	What we do—	Who we reach--	Short & Intermediate Results	Long-term & End Results
✓ $$ ✓ Staff time	➢ Strategies & program activities	➢ Participation in our programs	*What do we expect to see?* *Changes in* ❖ <u>A</u>wareness ❖ <u>B</u>ehavior ❖ <u>C</u>onditions (of natural resources) ❖ <u>S</u>atisfaction	*What's the legacy?* *Ultimately.* ❖ Meaningful results for people & resources (e.g. An informed public; healthy natural resource conditions, high citizen satisfaction)

Ecological Services Example: Rivers & Streams

Inputs ⟹ Activities ⟹ Outcomes

What we invest	What we do—	Who we reach--	Short/Interim Results	Long-term & End Results
✓ $$ from Ecological Services general operations and dedicated accounts	➢ Establish protected flows ➢ River channel restoration ➢ Plan & manage for fish & wildlife resources on major rivers ➢ Aquatic assessments ➢ Water quality monitoring	➢ Local communities engaged in restoration ➢ Other agency partners ➢ Citizens	*What do we expect to see?* ❖ Protected flows in targeted areas ❖ Evidence of successful restorations ❖ Knowledge & awareness about tools for large river systems	*What's the legacy?* ❖ Stream & river protection & restoration ❖ High water quality ❖ Healthy fish & wildlife in river systems ❖ High citizen satisfaction

Develop Performance Indicators and Targets

If a CWCS adopts a results management framework, then performance indicators and targets can be developed that measure progress and achievement. **Performance Indicators** are measures that track inputs, activities/outputs, and outcomes by stating them in specific and observable terms. **Targets** are quantitative statements of "how much by when."

Here are some examples of performance indicators and targets for some core functions. Again, these are offered only as concrete illustrations of the concept, not as suggestions for performance indicators or targets for CWCSs.

Goals	Performance Indicators	'04-'05 Targets
Fish Populations ➤ Improved habitat for healthy fish populations	Miles of stream restored; # of miles of stream maintained Fish population trends of important species	Maintain existing level of restoration and habitat improvement work Maintain healthy populations of important species
Wildlife Recreation Opportunities ➤ Sustainable populations of wildlife species and high recreator satisfaction	Participants in birding Birder satisfaction	Construct birding trails Increase birder satisfaction in target areas
Nongame and Rare Resources ➤ Long-term conservation of Minnesota's biological diversity	# of counties with a completed rare resources survey # acres acquired for Scientific and Natural Areas (a strict biodiversity conservation unit designation) # of prescribed burn sites on critical prairie habitat in SNAs	Collect ecological data in all or portions of 8 counties for the survey Acquire highest priority SNA sites with special funds package Conduct 5 prescribed burns on SNAs
Lakes and Rivers Management ➤ Healthy lakes and loon populations ➤ Innovative restoration programs that engage citizens in lake and river stewardship to protect lake and river quality ➤ Restored stream functions, fish and wildlife habitat, and recreation	Loon population trends in Minnesota lakes # of lake and river demonstration sites and citizen workshops # of partnerships with citizens for innovative stream restorations and dam removals	Maintain stable loon populations (2-3 loons/100 lake acres) Six new demonstration sites and six workshops for lake realtors Build on 50 initiatives to restore degraded rivers across Minnesota; maintain necessary technical expertise for innovative stream restorations and dam removals

Evaluate the Effectiveness of Conservation Actions

It is important that organizations evaluate the effectiveness of projects and adapt future projects based on new information. Criterion 5 underscores the expectation for and importance of evaluation and adaptive management for CWCS.

If a CWCS adopts a results management framework and develops performance indicators and targets, it is much easier to evaluate and adapt conservation actions. It is critical that a good cost accounting system be in place to keep track of investments (time and money) at the individual project level. It is also very important that managers remain committed to evaluation and adaptation, and are willing to invest the time and energy necessary to do them well.

The evaluation of projects and conservation actions can exist at several work levels and temporal scales. For example, individual projects occur annually at a local/field level. Collectively over several years, these individual projects (as a set) may be implementing program-level strategies that are at the level of the conservation actions called for in a CWCS.

The following example framework is one attempt to clarify levels, scales, and evaluation questions.

Framework for Evaluating Projects and Conservation Actions

Work level	Time Scale	Relation to results mgmt framework	Types of evaluation questions (not exhaustive)
Individual project	Annual	Focused on Target	Did project occur? Did it stay within budget? Did it use funds correctly? Who did the work? Did it have desired output?
Adaptive Management of project	Annual	Focused on Target	Based on evaluation, how should future projects be changed or retained?
CWCS Conservation Action (possibly, sets of annual projects representing program-level strategies)	Biennial and Multi-year	Focused on Targets and Performance Indicators	(Assuming project-level evaluations are being done.) What is the "status of desired outcomes" as measured by performance indicators? What are the relationships between CWCS conservation actions (sets of projects) and the status of desired outcomes? Are the conservation actions creating desired outcomes in an effective and efficient manner?
Adaptive Management of conservation actions	Biennial and Multi-year	Focused on Performance Indicators	Based on evaluation, how should future CWCS Conservation Actions be changed or retained?

Adopt an Evaluation and Reporting Schedule

It is important that a regular schedule for evaluation and reporting results be developed. IAFWA has already requested that States report CWCS development progress every six months. However, an evaluation and reporting schedule for the investments, activities, outputs, and outcomes from the CWCS also needs to be developed.

Here is a general suggestion for an evaluation and reporting schedule, based on the components of a results management framework:

COMPONENT	TIME FRAME	METHODOLOGY
Investments	Annual reporting	Cost Accounting System tracking time and money by project
Activities	Annual reporting	Cost Accounting System tracking time and money by project.
Outputs	Annual reporting	Project managers report on accomplishments based on "targets." This could include evaluation of the efficiency of conservation actions (e.g. did they come in on budget? did they produce the intended outputs?) Results of the evaluation could be used in the next investment cycle.
Outcomes	Biennial Reports 5 year report 10 year report Regional and National Level	Progress reports based on performance indicators. Some of these reports might be useful for regional and national-level reports. This could include evaluation of the effectiveness of conservation actions (e.g. did they come in on budget and produce the intended outcomes?) Results of the evaluation could be used in subsequent investment cycles.

Adopt a "Glossary of Terms"[1]

Planning processes provide opportunities to build a shared language among colleagues, partners, and stakeholders. Oftentimes, the creating of a shared language (e.g. what is a goal? what is an outcome?) can create frustration and anxiety among planning process participants. Building the shared language will inevitably occur, and it might be possible to start with a "glossary of terms" to speed up the development of the CWCS planning language.

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[1] Parts of this Glossary were prepared by Laura Preus for use by natural resource management organizations Adapted from multiple sources that focus on health and human services For example, one good source is: United Way of America. 1996 Measuring Program Outcomes: A Practical Approach www.national.united way org/outcomes/intro htm

The following definitions are offered as a concrete illustration of the glossary concept, and are not offered as the definitive glossary.

Glossary of Outcome Terms

Inputs—what we invest. Inputs are resources dedicated to achieving desired results. Common inputs are $$ and staff time. An organization uses inputs to support its main activities. *Input examples·*
- Staff or volunteer time
- Facilities and equipment
- Money allocated

Activities—what we do. Activities are what an organization does to fulfill its mission. Simply put, activities are what we do. An organization's activities result in specific outputs. *Activity examples:*
- Education and outreach
- Technical assistance
- Habitat improvement projects
- Stocking fish

Outputs—what is produced. Outputs are specific products resulting from program activities. Outputs can be described as the volume of work achieved, e.g., the "amount of service" or "amount of product" provided. Outputs are important because they lead to desired outcomes. *Output examples.*
- *# Workshops conducted & # people served*
- *# Maps provided to local units of government*
- *# Birding trails developed*
- *# Acres prescribed burns completed*
- *# Wild turkeys transplanted*

Outcomes—what results. Outcomes are benefits to people and natural resources resulting from an organization's work. They typically relate to changes in people (awareness, knowledge, attitudes, skills, behavior, and satisfaction) and changes in natural resources (natural resource conditions and quality). Simply put, outcomes are meaningful results for people and natural resources. *Examples:*
- *Awareness & voluntary compliance with fisheries regulations*
- *Healthy amphibian populations*
- *Desirable catch rates and average fish size*
- *Acres of wetland restored to fully functioning condition*
- *High birder satisfaction*

It is sometimes helpful to think of a "continuum" or "conceptual chain" of outcomes; for example, initial or short-term outcomes, intermediate outcomes, and long-term outcomes. *Examples:*
- *Awareness of collection regulations (shorter-term outcome)*
- *Voluntary compliance (intermediate outcome)*
- *Protected amphibian and reptile populations & high public satisfaction (long-term outcome)*

Efficiency—how we do business. Efficiency is related to minimizing cost, time, and waste. Ratios are often used to express these relationships. (e.g. output:cost or output:time). Efficiency examples:
- Cost of issuing a hunting license
- Cost of conducting a bird survey
- Cost per public workshops conducted

Effectiveness—how we do business well. Effectiveness is related to maximizing the outcomes. Ratios can also be used to express these relationships (e.g. outcome:cost or outcome:time). Effectiveness examples:
- Cost per percentage increase in birder satisfaction
- Cost per acre of wetland restored

Glossary of Indicator Terms

Indicators—what we measure. Indicators are measures that track inputs, outputs, and outcomes by stating them in specific and observable terms. They are also used to monitor natural resource conditions and the threats that can degrade natural ecosystems.
- *Indicator examples: # Boat checks conducted; % Boaters aware of exotic species laws; # Lakes infested with Eurasian watermilfoil*

Targets—'how much by when.' Targets are quantitative statements of 'how much by when;" they forecast expected results for a given period of time and provide measurable milestones that help us gauge progress toward outcomes. Sometimes they are also described in terms of a "target range"
- *Target example: "Lakeshore owners will restore 26 miles of shoreline in 2006."*
- *Target range example: "120-130 acres of wetlands restored in 2006*

Outcomes? Goals? A Note on Language—it's not either/or

"Outcome"-based language and concepts don't replace basic planning terms and concepts. Rather, the language of "outcomes" simply helps remind people to focus goals and objectives on meaningful results for people and natural resources!

Outcome-based language can complement basic planning terms. Here are some initial ideas for conceptually "cross-walking" the terms:

- Activities—what we do—are parallel or similar to terms such as *strategies* and *tasks*.

- Outputs—what is produced—are also related to the *products of strategies* and *tasks*

- Outcomes—what results—are easily related to *goals and objectives*. In fact, we often talk about "outcome-based goals and objectives."

Steps to Develop Performance Indicators

There are many ways to develop and use performance indicators. However, there are several common steps that can serve as a framework for developing them. Here are seven steps to developing and using performance indicators, as described by Laura Preus, a member of the science and policy unit of the Minnesota Department of Natural Resources.

1. *Start with meaningful results: outcome-based goals and objectives.* What does success look like? Measuring progress requires understanding what you are trying to achieve. A set of outcome-based goals and objectives is a basis for identifying useful performance indicators. A common acronym for outcome-based goals and objectives is SMART: S-specific; M-measurable; A-achievable; R-realistic; T-time bounded.

2. *Lay the groundwork for developing performance indicators.* Get prepared. Who are the champions and leaders for performance indicators? Who will start a discussion of key concepts around

using performance indicators, such as context, purpose, use, audience, and examples? Set up and agree on a legitimate process for developing performance indicators.

3. ***Build options: Develop a preliminary menu of possible indicators.*** Consider the many ways to measure progress toward a set of outcome-based goals and objectives. Knowledgeable participants can brainstorm ways to measure and communicate progress toward each objective. Creative ideas will emerge. Qualitative measures should also be considered (not just numerical data). Use ideas to develop a preliminary menu of possible indicators. Give people an opportunity to review and add relevant indicators to the menu as necessary.

4. ***Narrow the scope: Consider practicalities and realities.*** Discuss criteria for narrowing the set of indicators. Criteria should ensure that indicators would be both useful and scientifically credible. Criteria may include ideas such as:

   - Specificity: Is the indicator specific enough that we could start developing it and reporting on progress?
   - Data availability: Do we have, or could we realistically get, scientifically credible data for the indicator?
   - Meaningfulness: Is the indicator meaningful for both external audiences and us? Does it give helpful insight into progress toward an objective? Will decision makers use it?
   - Other criteria: Are there other criteria that staff believes are important?

5. ***Make decisions: Select a set of performance indicators.*** Many methods can be used. For example, staff can individually consider possible indicators and rank their top indicators for each objective. Individual rankings can be compiled into a group ranking for further discussion. Review possible selections as necessary. Based on rankings, relevant criteria, and discussions, a set of indicators may 'rise to the top.' Build in flexibility and adaptability by acknowledging that this set of performance indicators can be modified and improved over time.

6. ***Don't forget the details: Operational commitments.*** Follow-up on indicators and make operational commitments. Is everyone clear on the roles and responsibilities for collecting and reporting on this information?

7. ***Use and communicate performance indicators.*** Know your audience and communicate indicator results over time. Be willing to USE the indicators to adapt and learn, communicate progress and success, and ultimately strive to do your best work!

Conclusion

As most of us know, there is never "only one right way" (unless you are in the military). There are many different ways. Many roads lead to Rome, Rio, or Peoria. Each CWCS effort is going to be a unique and worthwhile journey.

Congress has provided the States and Territories with a list of 8 elements, which the U.S. Fish and Wildlife Service must use to judge whether a CWCS meets the letter and spirit of the law. One of those criteria (Criterion 5) calls for monitoring the success of the CWCS effort, for evaluating conservation actions, and for adapting actions over time. This brief document provides an approach that might be useful in focusing effort on monitoring success and evaluating action. This approach includes:

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If you have comments or questions about the ideas in this document, or the concepts of monitoring CWCS success and evaluating CWCS conservation actions, please feel free to contact:

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